Committee recommended Preferred Alternative

The text below is the Preferred Alternative for the Lake Whatcom Landscape Plan recommended by the Lake Whatcom DNR Landscape Planning Committee. Changes to the DEIS Preferred Alternative are recommended in Objective 7 and 16 and a new Objective, Objective 22, is proposed. Text shown in underline indicates additions to the text of the DEIS Preferred Alternative and text shown in ~~strikethrough~~ indicates deletions from the DEIS Preferred Alternative text.

Note that the Committee has made no recommendation regarding the strategies for Objective 7. The committee supports the objective but could not reach a consensus or majority agreement on a recommendation for the percentage of trees to be retained in harvest units.

Objective 1	**Ensure no significant risk to public health, safety and resources, and tribal archaeological and cultural resources from forest-management-related mass-wasting events.**
Mass-wasting	***Strategies:*** • Timber harvest and road construction upon potentially unstable slopes (as defined in the "Slope Stability Assessment" and shown generally on Map G-2 "Potentially Unstable Slopes") shall be carefully regulated. o Proposed activities on or adjacent to potentially unstable slopes shall be reviewed by the inter-jurisdictional committee who may make site specific recommendations. Inter-jurisdictional review means an annual sharing of plans for management activities; for each proposed activity there will be an on site review of the proposal by an inter-jurisdictional and inter-disciplinary team. o Proposed activities on potentially unstable slopes will require on-site evaluation by a DNR specialist to determine actual unstable areas. o No road construction or timber harvesting will occur on areas identified during the above evaluation as unstable. o Road reconstruction on areas identified by the above evaluation as unstable will consider inter-jurisdictional committee and specialists recommendations. o Harvesting or road construction outside of identified unstable areas, but within the mapped "potentially unstable slopes," will consider inter-jurisdictional committee and specialists recommendations. • Slope stability assessment work generally identified "high hazard" and "moderate hazard" mass-wasting units (See Map G-1) within the potentially unstable slopes areas. Watershed Analysis Areas of Resource Sensitivity #1 is rated "moderate hazard"; ARS #2, 3 and 4 are rated "high hazard." o Proposed activities on or adjacent to potentially unstable slopes shall be reviewed by the inter-jurisdictional committee who may make site specific recommendations. Inter-jurisdictional review means an annual sharing of plans for

	management activities; for each proposed activity there will be an on site review of the proposal by an inter-jurisdictional and inter-disciplinary team. o Follow Lake Whatcom Watershed Analysis mass-wasting prescriptions relating to timber harvesting. o On unstable slopes in ARS #2, #3 and #4 or areas identified as unstable above, new road construction shall be prohibited and old road reconstruction shall be limited. o Follow Watershed Analysis prescription for road construction in ARS #1. o Existing road reconstruction will follow Watershed Analysis road construction prescriptions in ARS #1, 2, 3 and 4. • In Smith Creek, large woody debris, which increases the risk of log jams and resulting debris torrents, will be cut into chunks to reduce debris build up, to provide for public safety of downstream residents.[1]
Objective 2	**Maintain and restore the sediment regime within the range of natural variability**.
Roads & sediments	***Strategies:*** • Follow Forest Practice Rules and watershed analysis prescriptions for road construction and maintenance. o No road construction during "wet conditions" (typically Nov. 1 – March 31) unless the contractor can demonstrate that protection of resources can be provided. • Minimize new road construction using harvest systems planning • No timber and rock hauling during "wet conditions" on DNR forest roads without surfacing or surfaced with non-durable rock, where sediment has the potential to deliver to streams. • Develop and begin implementation of a road maintenance and abandonment plan based on the specifications in WAC-222-24-050 and 051, within one year of the completion and approval of the landscape plan. o All orphaned roads will be inventoried and assessed relative to risk of failure and/or potential for sediment delivery. Mitigation work on orphaned roads will be done where a clear risk to public safety or potential for resource damage exists and accessing the site will not cause greater resource damage or public risk. o All identified road maintenance and abandonment work will be completed within 4 years of Board of Natural Resources approval of the landscape plan.

[1] This strategy is based on a negotiated legal settlement between DNR and residents in this area.

Objective 3	**Protect and restore riparian and wetland habitat to sustain healthy native aquatic, wetland, and riparian ecosystems**.
RMZs	***Strategies:*** • Establish riparian management zones along all streams while planning management activities. All riparian management zones should be evaluated for the need for a buffer to protect their functions. Manage lands within such zones to protect water quality and riparian habitat. Harvest in any riparian management zone shall only be conducted to achieve ecosystem restoration consistent with principles in DNR's HCP. Activities proposed within riparian management zones and wetlands shall be reviewed by the inter-jurisdictional committee, who may make site-specific recommendations. Inter-jurisdictional review means an annual sharing of plans for management activities; for each proposed activity there will be an on site review of the proposal by an inter-jurisdictional and inter-disciplinary team. o Type 1, 2, and 3 waters shall have a designated riparian management zone with a minimum horizontal width (each side) equal to the 100-year-site-potential tree height or 100 feet, whichever is greater; timber harvest allowed per HCP and forestry handbook procedures. [Current procedures do not allow harvesting within riparian buffers. However, the HCP agreement anticipates that some harvesting will occur: (a) No timber harvest within the first 25 feet horizontal distance from the outer margin of the 100-year floodplain; (b) the next 75 feet of the riparian buffer shall be a minimal-harvest area, and (c) the remaining portion of the riparian buffer shall be a low-harvest area. The HCP provides performance goals for these three areas. Procedures to implement the HCP intent are still being developed.] o Type 4 waters shall have a designated riparian management zone with a minimum horizontal width (each side) of 100 feet; timber harvest allowed per HCP and forestry handbook procedures. o Type 5 waters shall have a designated riparian management zone with a minimum horizontal width (each side) of 33 feet. o No timber harvests shall occur in type 5 riparian management zones except as needed for roads and yarding corridors. Trees cut for yarding corridors through type 5 riparian management zones shall be retained as down wood. o The riparian management zone distance will be measured horizontally from the outer edge of the 100-year flood plain or the outer edge of the channel migration zone (CMZ) where it exists on Type 1-3 waters, whichever is greater. No harvest shall occur within the CMZ. CMZ standards may apply to Type 4 waters. o The width of the riparian management zone shall be increased to include an outer wind buffer, consistent with the HCP, on Type 1, 2, & 3 areas prone to wind-throw. Where there is at least a moderate potential for windthrow, wind buffers shall be 100 feet wide on Type 1 & 2 waters and 50 feet wide on Type 3 waters that are wider than 5 feet. • Provide forested wetland buffers on wetlands consistent with HCP riparian management strategy. o For wetlands greater than 1 acre in size, provide a wetland buffer equal in width to the 100-year-site-potential tree height or 100 feet, whichever is greater. o For wetlands greater than 0.25 acre and less than one acre, provide a 100-foot wetland buffer.

Wetlands	○ Ensure that timber harvest in forested portions of wetlands and wetland buffers perpetuate a wind-firm stand with a minimum basal area of 120 square feet per acre. • The DNR is encouraged to avoid harvest in wetlands, consistent with current practice.
Objective 4	**Maintain and restore the forest hydraulic regime for each sub-basin within the range of natural variability**.
Hydrologic maturity	***Strategies:*** • Follow Lake Whatcom watershed analysis prescriptions relating to hydrologic maturity in rain-on-snow zones: ○ Maintain a minimum of (692) acres of hydrologically mature (> 40 years) forest in the Olsen Creek sub-basin. ○ Maintain a minimum of (1,200) acres of hydrologically mature (> 40 years) forest in the Smith Creek sub-basin. • The DNR will evaluate the hydrologic implications to sub-basins of all sales with the inter-jurisdictional committee.
Objective 5	**Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems**.
Chemicals	***Strategies:*** • Follow Forest Practice Rules and Forest Resource Plan Policy No. 33 (Controlling Competing Vegetation). Use the following prioritized application methods: 1) no treatment, 2) non-chemical and 3) ground-applied. No aerial application of herbicides. Select a cost effective method by considering the no treatment method first and then moving sequentially down the list. • Follow Forest Practice Rules and Forest Resource Plan Policy No. 33 (Controlling Competing Vegetation) and 34 (Thinning, Fertilizing, and Pruning). Use prioritized application method listed in the strategy above. No aerial application of fertilizers. • Proposed activities for vegetation control or involving use of pesticides or fertilizers shall follow principles of integrated pest management (RCW 17.15.005) and be reviewed by the inter-jurisdictional committee who may make site specific recommendations.
Objective 6	**Maintain and restore a diversity of natural and managed functional habitat conditions to benefit native fish and wildlife species, particularly those identified in WDFW priority and habitat species (PHS).**
Fish habitat Older-forest	***Strategies:*** • Ensure all native fish species have access throughout their natural range at all life stages. ○ Identify, prioritize, and replace fish-blocking culverts with fish-passage structures. Replacement will occur during planned management activities or during implementation of the Road Maintenance & Abandonment Plan. • Retain riparian and wetland buffers and off-base unstable slope areas in older forest conditions, letting those not in that condition yet to grow into it.

conditions Bald eagles Marbled murrelet Unlisted species of concern Uncommon habitats	• Protect all known bald eagle nesting, roosting and foraging sites. o Follow Forestry Handbook Procedure PR 14-004-330 for protecting bald eagle nest sites and roosts, including the development of site-management plans for bald eagle habitat pursuant to Forest Practices Regulations (WAC 232-12-292). o Follow the HCP riparian and large, structurally unique tree retention strategies, which should result in increased abundance of large trees for bald eagle nesting and roosting. • Conduct Pacific Seabird Group (PSG) protocol surveys of all known reclassified marbled murrelet habitat to determine occupancy. o Protect occupied stands and develop a long-term conservation strategy for the North Puget Planning Unit, as required in the HCP. • Follow specific species-by-species Forestry Handbook procedures. Procedures may change as a result of adaptive management. The following unlisted species of concern have been identified in Table XX as existing in or near the Lake Whatcom landscape and have Forestry Handbook procedures in place. Where current procedures do not exist, consult with the Region wildlife biologist. o Common Loon – see Forestry Handbook Procedure PR 14-004-240: Protecting Common Loon Nests. o Northern Goshawk – see Forestry Handbook Procedure PR 14-004-260: Protecting Northern Goshawk Nests West of the Cascades. o Pileated Woodpecker – see Forestry Handbook Procedure PR 14-004-290; Protecting Pileated Woodpecker Nests. • Follow specific Forestry Handbook Procedures. The following uncommon habitats have procedures: o Cliffs – see Forestry Handbook Procedure PR 14-004-190: Protecting Cliffs. o Talus Fields – see Forestry Handbook Procedure PR 14-004-170: Protecting Talus Field. o Caves – see Forestry Handbook Procedure PR 14-004-180: Protecting Caves. o Balds – see Forestry Handbook Procedure PR 14-004-220: Protecting Balds.
Objective 7	**Permanently retain green trees, snags, & down logs to support mature forest functions**.
Snags, green trees, down wood	***Strategies:*** ~~• Implement snag and green tree retention procedures on all harvest units, consistent with HCP and forestry handbook procedures. Procedures may change as a result of adaptive management. Current procedures specify:~~ ~~o Retain seven (7) percent of all trees that are 12" dbh or larger or 8 trees per acre, whichever is greater, as permanent legacy trees.~~ ~~o Legacy trees shall be dominant and co-dominant trees~~

	~~o Legacy trees shall include at least five windfirm green trees and three snags per acre harvested (subject to Dept. of Labor and Industries safety standards)~~ ~~o Choose as legacy trees large trees with structural characteristics important to wildlife and old growth remnants~~ ~~o One of these trees must be from the largest diameter class~~ ~~o One additional tree must be from the dominant crown class~~ ~~o Leave snags whenever safe and practicable. Retain snags that are at least 15"dbh and 30' tall. Give priority to large hollow snags, hard snags with bark, and snags that are at least 20" dbh and 40' tall.~~ ~~o If fewer than three snags per acre can be left, additional live trees will be retained so that the average per acre equals 7 percent or 8 trees per acre, whichever is greater.~~
Objective 8	**Maintain or increase soil productivity and health**.
Snags, Harvest methods	***Strategies:*** • Implement the strategies for snag and green tree retention above. • Select harvest methods that maintain or facilitate establishment of productive and healthy forest stands. • Avoid using ground-based harvesting systems on slopes exceeding 30% and on soils sensitive to compaction.
Objective 9	**Preserve, protect, and restore significant historic, archeological, traditional current use and cultural resources.**
	Strategies: • Identify and protect cultural resources using the following DNR policies, procedures, and guidelines, as well as state and federal acts, rules, regulations, accords, agreements, and executive orders. o **Implement DNR Policy P006-001 Historical, Cultural and Archaeological Sites, 7/31/96: "**All department personnel will identify potential archaeological, historic and cultural sites/resources in the course of their normal duties. Discovered resources will be recorded and inventoried in coordination with the Office of Archaeological and Historic Preservation (OHAP) and/or the appropriate Tribes so that they can be protected to the full extent allowable by law. o It is the policy of the department that Forest Resource Plan Policy #24 "Identifying Historic Sites," shall apply to all department managed lands. That policy states "The department will establish a program to identify and inventory historic and archaeological sites and protect them at a level, which, at a minimum, meets regulatory requirements…." o **DNR Tribal Policy PO06-002, Jan. 16, 1991** as referenced in Appendix F of the 1992 Forest Resource Plan, in PO06-001, and as reflected in the Revised DNR Tribal Policy, June 1998. o **1992 DNR Forest Resource Plan: Policy #8 "**Special Forest Products"; **Policy #13 "**Special Ecological Features"; **Policy #16 "**Landscape Planning"; **Policy #19 "**Watershed Analysis"; **Implement Policy #24: "**Historic and

	Archaeological Sites": "The department will establish a program to identify and inventory historic and archaeological sites and protect them at a level which, at a minimum, meets regulatory requirements." **Policy #28 "**Developing and Maintaining Roads"**; Policy #35 "**Implementation Policies: Public Involvement": **"**The department will solicit comment from the public, tribes, and government agencies when implementing the Forest Resource Plan and when revising policies contained in the document." o **DNR Forestry Handbook Procedures:** PR 14-004-030 "Identifying Historic Sites"; PR 14-004-010 "Identifying Off-base Lands"; PR 14-004-110 "Wetland Management". o **DNR Final Habitat Conservation Plan** (September 1997) and by reference: **(1) DNR DEIS** (March 22, 1996), 4.9 Cultural Resources, pgs. 4-525-4-528; and **(2) DNR HCP** FEIS (October 25, 1996), p. 3-121 C. Cultural. o **Washington State Rules, Regulations, Agreements:** RCW 27.34 Archaeological and Historic Preservation**;** RCW 27.44 Indian Graves and Records; RCW 27.53 Archaeological Sites and Resources Act; RCW 43.21C.020 & WAC 197-11 State Environmental Policy Act; RCW 25 Office of Archaeology and Historic Preservation; RCW 76.09 Forest Practices Act; WAC 222 Forest Practices Rules; 1999 Forest & Fish Plan Appendices G: Cultural Resource Module, N2: DNR Cultural Resources Planning, O: Cultural Resources Management & Protection Plan; 1987 TFW Agreement; 1989 Centennial Accord. o **Federal Regulations/Laws/Executive Orders:** 36 CFR Part 800 Protection of Historic Properties; 42 U.S.C. AIRFA American Indian Religious Freedom Act; 33 U.S.C Clean Water Act; 16 USC Endangered Species Act; Title 16 U.S.C 1906 Antiquities Act; Title 16 U.S.C., PL 96-95 Archaeological Resources Protection Act of 1979; PL 101-601 Native American Graves Protection and Repatriation Act; PL 91-190 National Environmental Policy Act; as applicable to DNR HCP; 1971 Executive Order #11593 Protection and Enhancement of the Cultural Environment. • Use the DNR Planning and Tracking (P&T) System, which links the user to DNR's Total Resource Application Cross-Reference (TRAX) database system, prior to planning resource management activities to identify known Cultural Resources Sites, per DNR PR14-004-030 "Identifying Historic Sites". • When management activities involve or affect cultural resources, DNR will meet with the affected tribe(s) with the objective of agreeing to a plan for protecting the archeological or cultural value. (per WAC 2222-20-120) • DNR will meet regularly with the affected tribe(s) to discuss plans or management activities per PO06-002 Tribal Relations Policy, January 16, 1991 and June 2, 1998)

	Strategies (cont) : • On a government-to-government basis, develop an agreement with interested federally-recognized tribes who consider the Lake Whatcom area as part of their Usual and Accustomed Area (U&A). The development of such agreements shall begin within one year of the Board of Natural Resources approval of the landscape plan. The agreement shall: o Identify categories of cultural resources to be protected and specific protection requirements and/or guidelines for each category o Outline a consultation process, including review timelines, for state lands actions such as: ▪ Timber sales plans ▪ Road maintenance and abandonment plans (RMAPs) ▪ Land exchanges o Address consultation process for the development of, or changes to, DNR policies such as: ▪ DNR Forest Resource Plan ▪ Sustainable Harvest Calculation ▪ Commissioner policy(s) for working with tribes (Commissioner's Order) ▪ Forest Practices ▪ Other applicable policies o Address other strategies under the objectives of this landscape plan to assure that conflicts with the protection of cultural resources are either avoided or mitigated to the extent possible. o Address issues such as: ▪ Tribal access, including behind DNR-controlled gates, to cultural sites on state lands. ▪ Cultural materials with significant commercial market (e.g. cedar trees for totem poles, canoes, etc.) Prior to implementation of the agreement described above, protection of traditional cultural resources identified during harvest planning will be guided by the protection needs and comments/recommendations in Table 5, Tribal Cultural Resources in the PDEIS Appendix D.
Objective 10	**Provide and facilitate tribal access to state managed lands for traditional cultural and religious practices and treaty guaranteed hunting and gathering.**
	Strategies: • Tribal access for hunting, fishing and gathering per Point Elliott Treaty of 1855 Section 5 Open and unclaimed lands. • On a government-to-government basis, develop an agreement that addresses tribal access (see government-to-government agreement under Objective 9 above).

Objective 11	**Create and implement a sustained yield model specific to the Lake Whatcom watershed that encompasses the revised management standards and that is consistent with the sustained yield established by the Board of Natural Resources.**
	Strategies: • The average rotation age is consistent with Forest Resource Plan policy as specified by site and species. Harvest trees in dense stands (commercial thinning), before trees die from stand competition, to capture revenue that would otherwise be lost.
Objective 12	**Maintain or improve commercial forest productivity and health.**
	Strategies: • Select a harvest method (regeneration, thinning, partial cut) that maintains or facilitates establishment of productive and healthy forest stands. • Avoid using ground-based harvesting systems on slopes exceeding 30% and on soils sensitive to compaction. • Following regeneration harvests, reforest with a majority of Douglas-fir intermixed with Western red cedar at all elevations in the planning area. • Pre-commercially thin overstocked stands. • During the first two decades of the plan, accelerate the harvest of mature and over-mature hardwood stands on sites better suited for conifers. • Control competing vegetation that would dominate crop trees or significantly inhibit growth in a stand.
Objective 13	**Cultivate higher value commercial forest products**.
	Strategies: • Plant and encourage growth of western redcedar to develop pole products. • Prune, to increase wood quality, where it will generate a higher economic return. • Consider tree selection during commercial thinning that promotes future log quality.
Objective 14	**Develop and maintain a transportation network that facilitates commercial management activities**.
	Strategies: • Develop and begin implementation of a Road Maintenance and Abandonment Plan within one year of the completion and approval of the landscape plan.

	• Use harvest system planning to identify necessary roads and reduce the total length of new road construction. • Pursue a viable alternative to the lower portion (sec. 6 & 7, T.37 N. R.4 E.) of the existing LM-2000 road as the primary timber haul route for harvests on Lookout Mountain. Maintain the existing road as needed for access to communication sites, fire access and administrative use. • Abandon roads to Forest Practices standards when they are no longer needed for management. • Install and maintain gates where necessary to reduce road maintenance costs, resource impacts, vandalism, and garbage dumping.
Objective 15	**Maintain and increase lease revenue from existing and future communication sites.**
	Strategies: • Continue to lease tower and building space to interested parties. • When possible, review rental rates. Increase rates if market conditions allow. • Seek new communication site customers.
Objective 16	**Consider opportunities to generate revenue from oil and gas exploration.**
	Strategies: • Limit exploratory drill sites to surface locations outside the watershed. ~~Subsurface diagonal drilling allowed.~~ No subsurface drilling into the watershed allowed. • If sufficient oil or gas reserves are found, allow development of the resource if compatible with other landscape objectives. Production drill sites shall be limited to surface locations outside the watershed. ~~Subsurface diagonal drilling allowed.~~ No subsurface drilling into the watershed allowed.
Objective 17	**Consider the marketing of special forest products such as evergreen boughs, salal greens, moss, and native plants, as appropriate.**
	Strategies: • Ensure potential products, if sold, will not negatively impact other resource objectives or traditional tribal use.

Objective 18	**Consider other revenue generating mechanisms.**

	Strategies:
	• Consider Lake Whatcom a preferred location for the following:
	  o Green certification
	  o Carbon sequestration
	  o Lease(s)
	  o Conservation easement
	  o Maintain long term public ownership of forest lands
	• Reconveyance
	• Exchange, transfer or sell trust lands.
	• Recreational fees.

Objective 19	**Manage dispersed, low impact recreation**.
	Strategies: • Public use and recreation is allowed in accordance with Policy No. PO10-002 (Public Use on DNR-Managed Trust Lands), provided resources and assets are not at risk. • As budget allows, develop a comprehensive recreation plan in cooperation with specific user groups such as the horseback riders, mountain bikers, hikers and other interested parties that minimizes impacts to trust resources and assets. • Limit access to streams, riparian areas, and wetlands by motorized vehicles through permanent road closures, vehicle barriers, and public education and enforcement.
Objective 20	**Reduce the visual impact of forest management activities in high visibility areas as shown on Map S-1.**

	Strategies:
	• Follow Forest Practice Regulations and Forest Resource Policy No. 32 (Green-up of Harvest Units), in conjunction with Policy No. 16 (Landscape Planning).
	• On all the state trust lands, including "moderate visibility" areas on Map S-1, the following guidelines will be used for even-aged harvest units:
	  o Harvest units will not exceed 100 acres except in the case of emergency salvage operations due to extensive "blowdown", insect or disease infestation, or public safety concern.
	  o No harvesting within 300 feet of another harvest area if combined acreage of harvest areas exceeds 100 acres

	○ Harvest units with trees greater than 4 feet high are considered "greened-up." • In "high visibility" areas on Map S-1, the department will consider the size, shape, and location of harvest units and distribution of leave trees when planning timber sales. • Disperse regeneration harvest activities temporally and spatially across the landscape.
Objective 21	**Support stewardship education opportunities and partnerships that address community needs.**
	Strategies: • Cooperate with and provide educational opportunities to requesting educational institutions and other interested parties consistent with the department's public use policy No. PO10–002. • DNR will continue to be an active participant in the Forest Practices Timber Fish Wildlife (TFW) process and the Lake Whatcom Forestry Forum.
Objective 22	**Develop an inter-jurisdictional committee to work with DNR to implement the landscape plan.**
	Strategies: • The DNR and the Lake Whatcom DNR Landscape Planning Committee requests the City of Bellingham, Whatcom County, and Water District 10 appoint members as they see fit as an interim inter-jurisdictional committee, consistent with E2SSB 6731, to represent the local needs for resource protection wherever review by, or consultation with, the inter-jurisdictional committee is referred to in this document. • The DNR will work with the Lake Whatcom Management Committee to develop and sign an agreement regarding the relationship between the signatories and the inter-jurisdictional committee in implementing the landscape plan. Discussions will begin as soon as mutually agreed upon after adoption of the landscape plan. • Prior to achieving a signed agreement between the BNR, DNR and the Lake Whatcom Management Committee, when and only when the DNR and the IJC are unable to reach mutual agreement on the execution of a site specific activity, the following strategies will only apply to that site specific activity and will supercede strategies in Objectives 1,3 and 4 of the adopted Lake Whatcom Landscape Plan. **Objective 1** ○ Proposed activities on or adjacent to potentially unstable slopes shall be prohibited. **Objective 3** ○ Establish riparian management zones along all streams while planning management activities. Manage lands within such zones to protect water quality and riparian habitat. ○ Type 1 and 2 waters shall have a designated riparian management zone of 250 feet.

	○ Type 3 waters shall have a designated riparian management zone of 200 feet
	○ Type 4 and 5 waters shall have a designated riparian management zone of 150 feet.
	○ No timber harvests shall occur in Type 1 though 5 riparian management zones except as needed for roads and yarding corridors. Yarding corridors must constitute less than five (5) percent of the stream length. Only full-suspension yarding is allowed in these corridors. Trees cut for yarding corridors through type 5 riparian management zones shall be retained as down wood.
	○ The riparian management zone distance will be measured horizontally from the outer edge of the 100-year flood plain.
	○ The width of the riparian management zone shall be increased to include an outer wind buffer in areas prone to wind-throw. Where there is at least a moderate potential for windthrow, wind buffers shall be 140 feet wide on all streams. Thinning up to 20 percent of the timber volume is allowed in the outer 50 feet of the wind buffer.
	○ Provide forested wetland buffers on wetlands consistent with HCP riparian management strategy.
	  ○ For wetlands greater than 1 acre in size, provide a wetland buffer equal in width to the 100-year-site-potential tree height or 100 feet, whichever is greater.
	  ○ For wetlands greater than 0.25 acre and less than one acre, provide a 100-foot wetland buffer.
	  ○ Ensure that timber harvest in forested portions of wetlands and wetland buffers perpetuate a wind-firm stand with a minimum basal area of 120 square feet per acre.
	○ The DNR is encouraged to avoid harvest in wetlands, consistent with current practice.
	Objective 4
	○ In each sub-basin, as these are defined in the Watershed Analysis, maintain at least 50% of the forested acres in the sub-basin at greater than 40 years of age.

Committee Information Regarding Its Proposed Preferred Alternative

The Lake Whatcom DNR Landscape Planning Committee proposed changes to the wording of Objective 7 and Objective 16 of the Draft EIS Preferred Alternative. The Committee also proposed adding Objective 22, with three strategies.

Committee's Rationale for Changes to Objective 7

The Committee has no recommendation regarding the amount of green trees to be retained in harvest units. As a result, the Committee does not recommend the strategies shown under Objective 7 but also does not recommend alternative strategies.

Committee's Rationale for Changes to Objective 16

The public comments regarding oil and natural gas leasing in the Lake Whatcom watershed were overwhelmingly opposed to oil and gas exploration within the watershed because of concerns regarding the inherent risks associated with exploration drilling and oil and gas field development.

Although no specific information was provided in the comments regarding the oil and gas leases, committee members have knowledge of the risks associated with oil and gas exploration drilling that has led to our recommending that no drilling into the subsurface beneath the watershed be permitted. This information was apparently not available to the authors of the DEIS. However, some of the information we gathered was from recent Ecology and County experience at a natural gas exploration well within the past couple of months in north Whatcom County.

The Committee concludes that the risk of exploratory drilling far outweighs the possible financial benefits. The Committee recommends that any drilling done be done outside the watershed and that no directional drilling into the subsurface beneath the watershed be permitted.

Past deep drilling projects in Whatcom County have encountered salt water under pressure within aquifers in the Chuckanut Formation. For example deep drilling into the Chuckanut Formation approximately 7 miles north of Lake Whatcom near Lake Fazon in the early 1980s encountered salt water under pressure. This salt water flowed out of the well head and into Lake Fazon in such volumes that all the fish in the lake were killed.

While directional drilling would preclude the same event occurring in Lake Whatcom, it would not prevent cross contamination of aquifers. Contamination of an aquifer in continuity with the lake could have a significant impact to water quality in the lake.

While DNR may believe that drilling programs can be carefully monitored, it should be noted that Washington Sate agencies have little expertise in exploratory drilling. The lack of expertise is primarily the result of the fact that Washington State has never had a producing oil well and very limited natural gas resources. The State is simply inexperienced in dealing with these types of projects. An example of this is the exploration well currently being drilled in northern Whatcom County. Ecology and the DNR have been hard pressed in dealing with a project that is

outside their usual experience. Another example is the DEIS itself. The risk of cross-contamination of aquifers and presence of salt water under pressure were not mentioned in the DEIS. This information was likely missing because of the lack of experience with exploration drilling in Washington State.

Gas and oil exploration and development is inherently risky to water quality, and the Committee is of the opinion that Washington State is not well prepared for monitoring and conditioning permits that would prevent cross-contamination of aquifers in the event directional drilling is allowed within the watershed.

Cross contamination does take place. Please note that the largest uranium ground water contamination beneath the Hanford 200 Area took place after an aquitard was breached during environmental exploration drilling. This breach drained contaminated perched water from one aquifer into a deeper regional aquifer that is in continuity with the Columbia River. This event took place in the 1980s.

Drilling for oil or natural gas within the Chuckanut formation will entail drilling through numerous sedimentary rock layers and aquifers. In the committee's opinion the risk of cross contamination of aquifers in continuity with the lake, as remote as it may be given the very limited exploration activity, is not acceptable.

Committee's Rationale for Addition of Objective 22 with Three Strategies and Minority Opinion in Opposition to the Third Bullet Strategy

Objective 22 Rationale
The structure provided by the formation of the inter-jurisdictional committee was critical to the Committee reaching consensus on a preferred alternative. The public comments on the DEIS indicate continuing concern that local resource protection needs will not receive adequate attention after the plan has been adopted. For this reason the Committee has recommended and the DNR has concurred to add objective 22 and the following two strategies to implement the objective.

Objective 22 – Implement the Landscape Plan
Strategies:

- *The DNR and the Lake Whatcom DNR Landscape Planning Committee requests the City of Bellingham, Whatcom County and Water District 10 appoint members as they see fit as an interim inter-jurisdictional committee, consistent with E2SSB 6731, to represent the local needs for resource protection wherever review by, or consultation with, the inter-jurisdictional committee is referred to in this document.*
- *The Department of Natural Resources will work with the Lake Whatcom Management Committee to develop and sign an agreement regarding the relationship between the signatories and the inter-jurisdictional committee in implementing the landscape plan. Discussions will begin as soon as mutually agreed upon after adoption of the Landscape Plan.*

Objective 22, Justification of 3rd Strategy
We seek greater certainty that the site-specific recommendations of the local IJC will be incorporated into DNR activity planning. We concur with the sentiments of Whatcom County Executive Kremen in his September 12, 2003 letter to the Lake Whatcom Landscape Committee: "The County recognizes that in order for DNR to effectively manage our public lands, it is critical that we create a partnership that supports our common interests." The details of this partnership are designed to be addressed in the signed agreement outlined in Strategy 2.

Until then, we support the following strategy to implement critical elements of the landscape plan.

- *Prior to achieving a signed agreement between the BNR, DNR and the Lake Whatcom Management Committee, when and only when the DNR and the IJC are unable to reach mutual agreement on the execution of a site specific activity, the following strategies will only apply to that site specific activity and will supercede strategies in Objectives 1, 3, and 4 of the adopted Lake Whatcom Landscape Plan.*
  - *Objective 1:*
    - *Proposed activities on or adjacent to potentially unstable slopes shall be prohibited.*
  - *Objective 3:*
    - *Establish riparian management zones along all streams while planning management activities. Manage lands within such zones to protect water quality and riparian habitat.*
      - *Type 1 and 2 waters shall have a designated riparian management zone of 250 feet.*
      - *Type 3 waters shall have a designated riparian management zone of 200 feet.*
      - *Type 4 and 5 waters shall have a designated riparian management zone of 150 feet.*
      - *No timber harvests shall occur in Type 1 through 5 riparian management zones except as needed for roads and yarding corridors. Yarding corridors must constitute less than five (5) percent of the stream length. Only full-suspension yarding is allowed in these corridors. Trees cut for yarding corridors through Type 5 riparian management zones shall be retained as down wood.*
      - *The riparian management zone distance shall be measured horizontally from the outer edge of the 100-year flood plain.*
      - *The width of the riparian management zone shall be increased to include an outer wind buffer in areas prone to windthrow. Where there is at least a moderate potential for windthrow, wind buffers shall be 140 feet wide on all streams. Thinning up to 20 percent of the timber volume is allowed in the outer 50 feet of the wind buffer.*
      - *Provide forested wetland buffers on wetlands consistent with HCP riparian management strategy.*

- *For wetlands greater than 1 acre in size, provide a wetland buffer equal in width to the 100-year-site-potential tree height or 100 feet, whichever is greater.*
- *For wetlands greater than 0.25 acre and less than one acre, provide a 100-foot wetland buffer.*
- *Ensure that timber harvest in forested portions of wetlands and wetland buffers perpetuate a wind-firm stand with a minimal basal area of 120 square feet per acre.*
- *The DNR is encouraged to avoid harvest in wetlands, consistent with current practice.*

- *Objective 4:*
  - *In each sub-basin, as these are defined in the Watershed Analysis, maintain at least 50 percent of the forested acres in the sub-basin at greater than 40 years of age.*

Minority opinion in opposition to the third bullet strategy for Objective 22
November 21, 2003

The legislature said, "The department shall establish an interjurisdictional committee for the development of the landscape plan, to review the site-specific activities and make *recommendations*." (ESSB 6731, Sec 1) (emphasis added). The purpose of the site specific recommendations is to ensure that local knowledge concerning the risks to resource protection of proposed activities is received and considered by the DNR prior to their making decisions. The DNR retains the responsibility to consider and weigh the impacts both to the trust and to the environment. This proposal recommends the default application of restrictive prescriptions in instances where the inter-jurisdictional committee and the DNR cannot agree on the appropriate restrictions for a specific site. We believe that this proposal would, in effect, transfer decision making power from the DNR to the inter-jurisdictional committee. Our reading of the legislation does not indicate that such a transfer is either encouraged or authorized by the legislature. For this reason we cannot support this proposal.

We understand that the purpose of this proposal is to overcome a lack of trust that the DNR will act in good faith and give appropriate consideration to the recommendations of the inter-jurisdictional committee. Moreover, the default prescriptions would be applied only while the DNR and the Lake Whatcom Management Committee (LWMC) are negotiating a permanent agreement for the operation of the inter-jurisdictional committee and only in situations where the committee has recommended a site specific restriction that the DNR declines to accept. However, we believe that the best strategy at this point, given the legislative language, is for the Landscape Planning Committee to display trust in both the DNR and the LWMC to negotiate in good faith and in a timely fashion an agreement concerning the working relationship between an inter-jurisdictional committee and the DNR that will serve to best implement the Landscape Plan.

(Note: Subsequent to the discussion of this minority opinion the Committee took up the overall suite of strategies. Ecology supported the overall strategy selected as the Committee Preferred Alternative with the exception of the third bullet of Objective 22.)

DNR's Response to the Committee's Proposed Preferred Alternative

DNR Response to Objective 7 Recommendations

The tree retention strategy written for Objective 7 for the DEIS is consistent with DNR's HCP and current forestry handbook procedures. The Committee was unable to agree on an alternative approach to green tree retention and did not propose a substitute strategy. Analysis of this strategy in the DEIS found no probable significant adverse impacts. Therefore, DNR is retaining this strategy and including it in the Preferred Alternative for the FEIS.

DNR Response to Objective 16 Recommendations

DNR must respectfully reject the Committee's recommendation that any drilling be done outside the watershed and that no directional drilling into the subsurface beneath the watershed be permitted. DNR does not believe there is enough information available to justify an outright prohibition on all subsurface drilling. The existing environmental review and permitting process should be used to evaluate specific oil and gas drilling proposals if and when they occur.

This recommended change invalidates Objective 16 itself by eliminating any way to "Consider opportunities to generate revenue from oil and gas exploration." Surface entry impact issues had already been addressed by imposing the mitigation measure of requiring only diagonal directional drilling from outside the watershed.

Directional drilling from a surface location is very common in many areas, and is standard practice on offshore locations. It is also common where surface locations are difficult to develop and maintain, such as the arctic, urban locations such as Los Angeles, and areas where surface disturbance is prohibited, such as some federal lands. This type of development presents less risk of groundwater contamination because most of the additional subsurface directional drilling takes place below groundwater sources through casing.

DNR agrees that valid concerns about water quality require stringent standards and environmental review in both permitting and monitoring exploratory drilling and any subsequent development of oil or gas resources. No groundwater contamination occurred as a result of oil and gas drilling any place in Washington during the period from 1986 to the present, the period for which DNR staff have personal knowledge and records.

Aquifer problems at Hanford cannot be generalized. The type of environmental contamination drilling done at Hanford does not include the types of well control and casing requirements typical of oil and gas exploration. RCW 78.52. 125 requires the denial of any well permit application if safeguards to minimize hazards of pollution of surface or groundwater are not in place. WAC 344-12-080 specifically requires that groundwater suitable for domestic, municipal, commercial, stock or agricultural purposes be protected and confined to their respective strata.

This rule further requires that all oil, gas, and underground sources of drinking water above and below a producing hydrocarbon zone be sealed and/or separated to prevent cross-contamination.

It has been reported that a Lake Fazon coal exploration well drilling in approximately 1982 may have had a brine flow. At that time coal wells were completely unregulated. Subsequent to that coal drilling activity a DNR geologist identified this problem and worked with the state Department of Ecology (DOE) on their WAC revision committee to develop regulations. Coal drilling now is regulated by DOE. The Lake Fazon oil and gas well was drilled in the 1990s and thoroughly and professionally regulated. No water flows or other environmental accidents of any type occurred on this well and no zones of porosity were penetrated. Regulatory field notes are available concerning this project.

DNR's information concerning the recently completed Jordan Exploration coal bed methane exploration well differs from the Committee's statements. The well has no problems, but a local resident viewed the reserve mud pit as a threat to the shallow unconfined aquifer in this agricultural area. Some local residents have domestic wells that are very shallow and do not meet current domestic well depth requirements. One resident believed that the drilling mud would pose a threat to his well. DOE's inspection found that this is not the case. The drilling muds are fresh water, bentonite, and a small amount of a DOE-approved polymer.

The department must take exception to the Committee's view that state agencies have little expertise in exploratory drilling. DNR Geology Division staff have private sector oil and gas well experience, and because the staff expertise in subsurface geology and groundwater movement traditionally has been very high other agencies such as the U.S. Geological Survey and Washington State Department of Ecology (DOE) have sought assistance for deep drilling and brine flow issues. Department of Ecology has staff with well construction experience.

The following points concerning oil and gas leasing and oil and gas exploration previously have been discussed with the Committee and addressed in earlier documents but bear repeating:

- DNR does not control the mineral and oil and gas rights under many of the parcels where the trust owns the surface within the watershed. The trust has both surface ownership and mineral rights for 11,988 acres, and surface ownership without mineral rights for 3,715 acres. In cases where another party holds the mineral rights DNR cannot prohibit leasing and exploration under the parcels.
- Drilling for oil and gas requires an Oil and Gas Conservation Committee permit (RCW 78.52.120) which then triggers an environmental review (possibly an EIS) before drilling would be allowed.

DNR's Response to Objective 22 Recommendations

DNR has agreed to add Objective 22 and its first two strategies to the FEIS Preferred Alternative. However, DNR is unable to accept the third strategy proposed by the Committee because it is inconsistent with the specific guidance of E2SSB 6731, which states "The department shall establish an interjurisdictional committee for the development of the landscape plan, to review the site-specific activities and make recommendations." The third strategy would

transfer DNR's decision-making authority to the interjurisdictional committee in each case involving disagreement over a proposed activity. This is incompatible with DNR's legal obligations as a trust land manager.

The Committee's proposed third strategy for Objective 22 prohibits any proposed activities on or adjacent to potentially unstable slopes. In setting this condition it imposes arbitrary restrictions on trust land management options which exceed those under all three DEIS alternatives and even all five of the alternatives analyzed for the PDEIS, and therefore is outside the scope of the EIS. (Even PDEIS Alternative 5, the most protective alternative analyzed, entertained the possibility of harvest on potentially unstable slopes, following inter-jurisdictional committee review and recommendation.)

The Committee's recommended changes to Objective 3 regarding riparian management zones under this third proposed strategy for Objective 22 are identical to the provisions of Alternative 3, but wetland buffers would be those required under the Preferred Alternative. The recommended change to Objective 4 (hydrologic maturity) would require maintaining at least 50 percent of the forested acres in the sub-basin at greater than 40 years of age. These recommendations appear to be unwarranted and fail to consider the DEIS and PDEIS analysis which indicated no significant environmental impacts would occur through implementation of the Preferred Alternative. In fact, the recommended change to Objective 4 would greatly exceed HCP requirements and overlooks hydrologic maturity analysis done for each Hydrologic Analysis Unit within the Lake Whatcom watershed.

The Department of Ecology representative to the Committee submitted a minority opinion concerning the third strategy. As the minority opinion statement points out, the purpose of site-specific recommendations is to ensure that local knowledge concerning the risks to resource protection is received and considered by DNR in making decisions about proposed activities. DNR retains the responsibility to consider and weigh the impacts both to the trust and to the environment. Finally, the third strategy forwarded by the Committee could reduce the incentive for good-faith negotiations and timely enactment of an agreement between DNR and the Lake Whatcom Management Committee.